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9	Manufacturing Company, Ltd.					
10	UNITED STATES DISTRICT COURT					
11	NORTHERN DISTRICT OF CALIFORNIA					
12	SAN JOSE DIVISION					
13	TAIWAN SEMICONDUCTOR	Case No. 5:14-cv-362				
14	MANUFACTURING COMPANY, LTD., a Taiwan Corporation,	FIRST AMENDED COMPLAINT FOR				
15	Plaintiff,	FRAUD; BREACH OF CONTRACT; TRADE SECRET MISAPPROPRIATION				
16	v.	DEMAND FOR JURY TRIAL				
17	TELA INNOVATIONS, INC., a Delaware Corporation, and SCOTT T. BECKER, an	Date Filed: January 24, 2014				
18	individual and California resident.	Judge: Hon. Beth L. Freeman				
19	Defendants.					
20						
21	REDACTED VERSION OF DOCUMENT(S) SOUGHT TO BE SEALED					
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# NATURE OF THE ACTION

- 1. Defendants Tela Innovations, Inc. ("Tela") and Scott T. Becker ("Becker") fraudulently induced TSMC to disclose its confidential Design Rules with an intention to use information about those rules to shape the claims of its patent applications to claim subject matter that Tela did not invent, but that Tela believed (incorrectly, as it turns out) would read onto products designed in accordance with TSMC's Design Rules. TSMC seeks damages and injunctive relief.
- 2. Tela also has breached several non-disclosure agreement(s) with TSMC by disclosing to its patent agents and misusing confidential and trade secret information about TSMC's design rules, process requirements, and engineering analysis to shape the claims of Tela's patent applications to claim subject matter that Tela did not invent, but that Tela believed would read onto products designed in accordance with TSMC's Design Rules. TSMC seeks damages and injunctive relief.
- 3. On information and belief, Tela also has breached and is continuing to breach the terms of a collaboration agreement with TSMC by offering and/or licensing cell libraries and layouts that Tela created by practicing the inventions claimed in Tela patents while those patents were licensed for exclusive use by TSMC. TSMC seeks damages and injunctive relief.

#### **PARTIES**

- 4. Plaintiff TSMC Ltd. is a Taiwanese corporation organized in 1987 that maintains its principal place of business at No. 8 Li-Hsin Road 6, Hsinchu Science Park, Hsinchu, Taiwan 30077. TSMC is recognized worldwide as the world's most advanced and most successful provider of semiconductor fabrication services for customers who design their own circuit layouts, but who either lack their own semiconductor manufacturing expertise and facilities, or simply wish to use TSMC's high quality fabrication services or technology. TSMC owns and operates twelve semiconductor fabrication facilities—or "fabs"—in Taiwan.
- 5. Defendant Tela is a Delaware corporation organized in June 2005 that maintains its principal place of business at 485 Alberto Way, Suite 115, Los Gatos, California 95032.

6. Defendant Becker is an individual who, on information and belief, is a California resident and resides in Scotts Valley, California. Becker is the President and Chief Executive Officer of Tela, and is a member of Tela's Board of Directors. On information and belief, Becker has served as an Officer and Director of Tela since its inception and holds a substantial equity ownership in Tela. Becker is also a named inventor on several of the patents and patent applications relating to Tela's "gridded design approach" discussed herein.

### **JURISDICTION AND VENUE**

- 7. This Court has jurisdiction over this action pursuant to 28 U.S.C. § 1332(a)(2), because Plaintiff is a corporation organized and existing under the laws of Taiwan having its principal place of business at No. 8 Li-Hsin Road 6, Hsinchu Science Park, Hsinchu, Taiwan 30077, Defendant Tela is a corporation incorporated under the laws of the State of Delaware, and having its principal place of business in the State of California, and Defendant Becker, on information and belief, is a California resident who resides in Scotts Valley, California. The amount in controversy exceeds \$75,000, exclusive of interest and costs.
- 8. Venue is proper in this District under 28 U.S.C. § 1391(b)(1), as this is the District in which both Tela and Becker reside. Furthermore, pursuant to Civil L.R. 3-2, assignment of this action to the San Jose Division of this Court is proper because a substantial part of the events or omissions that give rise to TSMC's claims against Defendants occurred in Santa Clara County, where, on information and belief, Tela is headquartered, and/or in Santa Cruz County, where Becker maintains his primary residence.

#### **FACTUAL ALLEGATIONS**

#### A. Semiconductor Wafer Fabrication

9. Integrated circuits (also known as "chips" or "ICs") are the small electronic devices present in all modern electronic products. They contain millions of microscopic electrical components (*e.g.*, transistors, resistors, etc.), each with a dimension less than a micron ("µm") in size. These components are embedded in the silicon substrate of a wafer. The components within each chip are interconnected with stacked layers of ultra-fine metallic traces (wires), after which the wafer is divided into hundreds or even thousands of die, which are then cut, assembled,

and sold as integrated circuits to electronic product manufacturers. Many of the world's leading designers of integrated circuits—including just about every major California high-technology company—use TSMC to fabricate wafers from their chip designs.

- 10. Transistors are the heart of integrated circuits and are formed within a silicon substrate, called a wafer. A transistor is a switch that can turn on and off billions of times per second. It consists of "source" and "drain" regions, which are separated from one another by a "gate." The gate, which is made from a material such as polysilicon, controls the flow of electricity from the source to the drain, and thus whether the transistor is "on" or "off." Even when the gate is closed and the transistor is off, however, some amount of electrical current may flow from the source to the drain, giving rise to leakage and undesired power consumption. It has been known for decades that both the amount of leakage, and the on/off speed of the transistor, can be controlled by adjusting or "biasing" the length of the polysilicon gate.
- 11. One or more layers of thin metal lines that run above the substrate and the gate layer are used to connect transistors and other components to one another, to carry power to the transistors, and to link the circuitry to external connections at the edge of the chip. For many generations, chips have contained multiple metal interconnect layers stacked above one another, with the first layer above the substrate called Metal 1 or "M1" and the next layer up called Metal 2 or M2, etc. A complex chip design may require as many as ten layers of metal.
- 12. As semiconductor process technology has advanced over the years, manufacturers have been able to fit more electrical components onto the same size piece of silicon. Thus, any given semiconductor manufacturing process has an associated "process technology node," which is identified by the size of the smallest dimension of a feature made using the process, such as the width of a transistor gate, or the width of a metallic interconnect wire. The more advanced process technology nodes in use today, depending on the sophistication of the manufacturer, are 65 nanometer ("nm"), 45 nm, and 28, 22 and 20 nm (1 micron (μm) equals 1000 nanometers). A typical human hair is 50 to 100 μm in diameter—5,000 times thicker than the smallest feature on a 20 nm chip.

- 13. Each year, TSMC invests hundreds of millions of dollars in research and development to stay on the cutting edge of integrated-circuit fabrication by making circuit features smaller and more efficient with each process technology node. Smaller circuit features enable the die to be smaller, allowing more die to fit on a wafer thus lowering the cost per die. The industry expects that an advanced manufacturer like TSMC will be able to introduce a new and smaller process node approximately every two years targeted to obtain around a 50% reduction in chip area, but with comparable or better performance.
- 14. Beginning at the .18 µm node (180 nm), the size of the smallest feature became less than the 193 nm wavelength of the light used to create it, requiring optical corrections in the mask patterns simply to create a square corner. As process nodes have continued to decrease in size below 90 nm, the physics of light transmission, and electron flows, and material science have posed ever more challenging processing conditions, which in turn have necessitated more stringent design rule restrictions and narrowed design flexibility. TSMC's R&D operation employs thousands of engineers dedicated to perfecting each new generation of process node and to overcoming the challenges associated with ever decreasing size.
- 15. TSMC has developed a proprietary information-protection policy that secures IP confidentiality company-wide. TSMC deploys several measures, both electronic and physical, to protect its IP, including marking its documents with various levels of security, restricting access to documents and to the fabs themselves to persons who have a need to know, and entering into non-disclosure agreements with customers and third parties with whom TSMC must collaborate to operate its business.

# **B.** The Chip Design Process

16. For TSMC to fabricate a wafer, its customers provide an integrated-circuit design (comparable to a blueprint) that describes the components desired by the customer and the way they will be interconnected. TSMC will then take the data it receives about the circuit design layout from the customer and use it to create patterned "masks" through which light will be directed to form the patterns of the chip circuitry, which is called photolithography. At a high level of abstraction, the circuitry is fabricated by bombarding the silicon substrate with electrical

electrically charged particles to form electrically active and non-active regions and then sequentially exposing various layers formed on the silicon to photolithographic exposures through different masks, with dozens of intervening processing steps between each photolithographic exposure.

- 17. In order for a customer's design to be fabricated using TSMC's manufacturing processes, the design must comply with certain "Design Rules" that TSMC develops for each of its process technology nodes and for each of the general types of chips that can be made at a given node, for example, a low power processor made using 65 nm technology. Design Rules provide the customer with parameters for the type, size, and shape of the features and the spatial relationships between features that the customer can use to create its circuit designs. For example, if the process cannot reliably insulate two wires if they are spaced less than 0.2 μm (two ten millionths of a meter) apart, the Design Rules would specify a minimum separation between wires of 0.2 μm. TSMC develops its Design Rules through a lengthy, intensive process that involves considerable investments of time and money. Because Design Rules are an important and competitively sensitive aspect of TSMC's technology, TSMC treats its Design Rules and Design Rule Manuals as highly confidential, proprietary information. TSMC requires its customers, and others to whom TSMC might need to disclose its Design Rules, to execute non-disclosure agreements before TSMC will make them available.
- 18. Using TSMC's Design Rules and Design Rule Manuals for each new process node, some of TSMC's customers, especially TSMC's larger customers, create their own cell libraries, each containing dozens or hundreds of TSMC Design Rule compliant cells that contain a blueprint for a repeatable unit of transistors, polysilicon lines, interconnect structures, and other features that can be selected and configured together to perform a particular function within a chip. There may be different libraries at the same process node for different kinds of chips, and different cells within a library to perform a variety of common functions, each different library having a different advantage. For instance, a customer wishing to minimize power consumption in a chip that will be battery powered may choose a particular cell library designed for energy efficiency, while a customer hoping to increase performance may choose a library optimized for

speed. Each cell is akin to the blueprint for a type of room, including its furniture, fixtures, and wiring, that can later be fabricated as part of a building. The transistors within a cell can be linked together in multiple ways using polysilicon lines insulated from the substrate and/or the wires in the thin metal interconnect wires in the Metal 1 or higher metal layers above the gate layer.

- 19. Some of TSMC's customers may not have the capability or resources or desire to create their own suite of cell libraries for each new TSMC process technology and type of chip they may seek to have made. TSMC, therefore, has developed its own "standard" cell libraries that comply with its Design Rules for use by its customers to design chips for fabrication by TSMC. Third party library vendors like ARM and Synopsys also offer chip designers multiple, standard cell libraries that are TSMC Design Rule compliant.
  - C. Tela approached TSMC in May 2006 with a conceptual gridded gate-array chip architecture, and sought TSMC's specialized expertise to develop it into a workable design approach.
- 20. In or around May 2006, Tela approached TSMC claiming to have conceived of a highly regularized circuit architecture for use with process nodes of 90 nm or smaller that Tela believed would save on chip design time and chip area, while boosting performance and the yield of useable chips or "die" on a wafer. Tela's proposed design solution employed a "gridded layout," consisting of regularly placed, polysilicon lines available for use as gates and interconnects that would extend in only one common direction across the silicon substrate, with no angled bends or right angled jogs allowed (also called one-dimensional or 1D poly). Tela's design architecture employed a similar grid of regularly placed, 1D metal lines forming the Metal 1 layer, each running perpendicular to the 1D polysilicon lines beneath, followed by another 1D array of lines forming the Metal 2 layer running perpendicular to the Metal 1 layer, and so forth, with each additional metal layer running perpendicular to the layer beneath it and above. Tela CEO Scott Becker described this gridded array approach in Provisional Application No. 60/781,288 filed with the United States Patent and Trademark Office ("USPTO") on March 9, 2006. According to Tela's gridded array approach, rather than first place the transistor source/drain regions where desired on the substrate and then locate the polysilicon transistor gates

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and interconnects on top of them, a chip designer could create a circuit layout by first laying out a an array of regularly spaced, parallel polysilicon lines and multiple layers of regularly spaced, parallel metal lines above and perpendicular to the polysilicon array and each other (thereby creating the grid), and then placing the source and drain regions of the transistors side-by-side beneath the pre-placed poly lines, then severing the poly lines to create transistor gates, and then severing the remaining poly lines and metal lines wherever needed to create interconnects.

- 21. As of May 2006, Tela's gridded array design approach was conceptual and only in the earliest stages of testing. Tela faced many unanswered questions: would its design approach be useful; could TSMC's Design Rules be "pushed" (*i.e.*, modified while still staying within TSMC's process capabilities) sufficiently to utilize Tela's approach, if so, would it be feasible and cost effective to fabricate a viable integrated circuit from a layout designed using a pre-placed gridded array; could the shortened design cycle-time and circuit performance advantages that Tela touted for this architecture actually be realized in practice, and if so, would the advantages of using this design technique and the resulting layout be outweighed by other disadvantages?
- 22. Tela wanted to tap into TSMC's process expertise to evaluate the feasibility of Tela's approach, and if feasible, to help co-develop the design of a viable gridded architecture that would be compatible with TSMC's existing Design Rules, or if outside those Design Rules, compatible with TSMC's processing constraints. Tela asked TSMC to disclose its confidential and proprietary 65 and 45 nm Design Rules to Tela in order to permit Tela to propose potential Design Rule changes that might be needed to accommodate its gridded architecture, which TSMC could then evaluate for manufacturing feasibility and compatibility. TSMC, however, under its strict information-protection policy described above, would not disclose its Design Rules to Tela without a Nondisclosure Agreement in place.
- 23. On May 16, 2006, TSMC and Tela entered into a Nondisclosure Agreement ("NDA") to begin a collaboration. The Nondisclosure Agreement pertained only to geometries greater than 32 nm. Among other things, that agreement permitted Tela "only [to] use [TSMC's] Confidential Information for the purpose of mutually beneficial technical and business developments," and explicitly prohibited Tela "from using such Confidential Information for *any*

other purposes." (emphasis added). The Nondisclosure Agreement renews annually unless terminated by prior written notice, and it remains in effect today. Tela further agreed that, in the event of a breach by Tela, TSMC would be "entitled to seek proper injunctive or equitable relief in any court of competent jurisdiction in addition to any other remedies by operation of laws or in equity."

24. From May 2006 to January 2009, the parties collaborated to evaluate the viability, advantages, and disadvantages of using Tela's gridded array design approach to design a circuit layout that would be compatible with TSMC's Design Rules and fabrication processes. To enable the collaboration, on July 3, 2006, TSMC provided Tela a copy of its confidential 65 nm Design Rule Manual, and on December 14, 2006, TSMC provided Tela a copy of its confidential 45 nm Design Rules. TSMC also disclosed to Tela during this time period that, based on TSMC's analysis and testing of Tela's proposed gridded design approach, certain aspects of Tela's gridded design approach were unnecessary, counterproductive, and not commercially viable.

- 25. TSMC made each of these disclosures to Tela under and subject to the governing Non-Disclosure Agreement between the parties. Tela would not have obtained this highly confidential, TSMC-developed information, and TSMC would not have disclosed this information and related information about TSMC's Design Rule parameters and process constraints to Tela, absent the governing Non-Disclosure Agreement.
- 26. Despite the disadvantages of Tela's gridded array approach, TSMC engineers nevertheless worked with Tela in an effort to create a *different* circuit architecture than the one proposed by Tela that TSMC's customers might want to purchase, and that TSMC's processes

could support during fabrication. To facilitate this development work, TSMC disclosed to Tela confidential details regarding TSMC's Design Rules, cell libraries, Design Rule and process constraints, and related information, as well as the ways in which TSMC's own design parameters and approach differed from the invention that Tela had disclosed in its provisional patent application No. 60/781,288 filed with the USPTO on March 9, 2006—an approach that TSMC told Tela would be a "better option." For example, TSMC determined through experimentation and testing \_\_\_\_\_\_\_\_, and disclosed to Tela as early as 2007, that

as compared to

Tela's proposed "gridded design" approach.

- 27. TSMC made each of the foregoing disclosures of its confidential technical information to Tela under the governing Non-Disclosure Agreement between the parties whereby Tela's use of the information was to be only for the purpose of mutually beneficial technical and business developments, and not for any other purposes. TSMC would not have disclosed this highly confidential, TSMC-specific information to Tela, and Tea would not have obtained it, absent the governing Non-Disclosure Agreement.
- 28. On information and belief, several of Tela's officers and directors were involved in Tela's collaboration with TSMC relating to the gridded design approach. Defendant Becker (Tela's President, CEO, and Board of Directors member, and a named inventor on all of the "gridded array" patents and patent applications discussed herein) and Dhrumil Gandhi (Tela's Chief Operating Officer, and Board of Directors member) were personally and deeply involved in the collaboration between Tela and TSMC. On information and belief, both Becker and Gandhi received and/or reviewed TSMC's highly confidential information about its Design Rules, cell libraries, layouts, processes, Design Rule and process constraints, and related information pursuant to the Nondisclosure Agreement, and both individuals were parties to email, telephone, and in-person discussions with TSMC personnel and other Tela employees where TSMC's highly confidential technical information was disclosed.

- 34. Tela's classic introduction of "new matter" into its patent applications. See, e.g., Anascape, Ltd. v. Nintendo of America, Inc., 601 F.3d 1333, 1338 (Fed. Cir. 2010) (the removal of claim limitations to broaden patent claims is "classical new matter") (citing Baldwin Graphic Systems, Inc. v. Siebert, Inc., 512 F.3d 1338, 1344 (Fed. Cir. 2008)). As alleged herein, the "new matter" added to the disputed patents came from TSMC and was not invented by Becker or any of the named inventors on the disputed patent applications.
- TSMC never consented to the use by Tela and Becker of TSMC's confidential and 35. proprietary technical information about its 45 nm process and design technology in prosecuting the foregoing patent applications. This unauthorized use by Defendants of TSMC's confidential information, obtained by Defendants under Tela's Non-Disclosure Agreement(s) with TSMC, was for Tela's (and its shareholders') benefit alone, and was motivated in large part by Defendants' belief that by using it, they could obtain claims to inventions that were broader and different from what Tela purportedly had invented, and claims that would read onto products designed in accordance with TSMC's Design Rules This use by Defendants of TSMC's confidential information was not for the mutual benefit of Tela and TSMC, as evidenced at least by Tela's assertion of the patents it obtained against TSMC and its customers to obtain license payments and other consideration and engage in activities detrimental to the interests of TSMC.
  - D. Eager to expand their theft of TSMC's intellectual property, Defendants Tela and Becker defrauded TSMC to gain access to TSMC's confidential information regarding its more advanced, 32/28 nm process technology.
- 36. On January 23, 2009, shortly after Tela and Becker began their surreptitious campaign to use TSMC's 45 nm confidential information in Tela's patent prosecution, TSMC and Tela entered into an Area Trim Design Collaboration Agreement, under which they agreed to codevelop 65 and 45 nm cell libraries, layouts and other materials incorporating Tela's and TSMC's technology, though not using the gridded array design disclosed in Tela's provisional application and the '352 patent.

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- 37. Defendants Tela and Becker knew, through Tela's Area Trim collaboration with TSMC and Defendants' receipt of the TSMC confidential information discussed above, that TSMC's 65 nm and 45 nm design rules, cell libraries and layouts designed using those rules and/or libraries did not practice several essential elements of Tela's actual, "gridded array" design invention as claimed in Tela's provisional application and '352 patent. This divergence between the '352 patent claims and TSMC's actual practices was a substantial motivation behind Tela's unauthorized use of TSMC's confidential information during its prosecution of new patent applications to draft new Tela patent claims that Tela had not actually invented.
- 38. Neither Tela nor Becker, however, knew what TSMC planned for its newest (and much smaller) 32/28 nm process node. Under the Nondisclosure Agreement that existed between Tela and TSMC as of January 2009, Tela's agents and employees, including Becker, did not have access to TSMC 32/28 nm Design Rules or related confidential technical information.
- 39. Hoping to cover through continuation patent applications TSMC's next generation 32/28 nm process technology and products and layouts designed in accordance with TSMC's 32/28 nm Design Rules, Defendants sought access to TSMC's proprietary 32/28 nm process technology documentation. Defendants intended to use TSMC's highly confidential 32/28 nm information for their own, not mutually beneficial, patent prosecution purpose. Neither Tela (by and through its officers, directors, and managing agents) nor Becker disclosed these intentions to TSMC. To the contrary, Becker wrote TSMC employee Fu-Chieh Hsu an email on March 3, 2009, assuring him that Defendants "[we]re excited *to work with* TSMC on 28nm." (emphasis added).
- 40. Then, on March 9, 2009, in furtherance of the foregoing scheme, Defendants pressed TSMC to provide them with TSMC's 32/28 nm rules and for an amendment to the parties Nondisclosure Agreement to cover them. On that date, Neal Carney—who, on information and belief, was acting as an agent of Tela and/or under the direction and with the authorization of Becker and other Officers and Directors of Tela—sent an email to Kuo Wu (a TSMC employee) wherein Carney told Wu "[w]e need 32/28nm rules asap ... [p]lease send whatever addendums we need to sign for access to these ... [w]e need the rules now." Carney's email omitted any

mention of Defendants' intent to use the 32/28 nm Design Rules for Tela's patent prosecution purposes, or Defendants' ongoing efforts to incorporate TSMC's 45 nm Design Rule information into its continuation patent applications, but instead referenced a "[t]echnical evaluation and decision on 28nm layout options by the end of April" as the sole purpose for the request to access TSMC's 32/28nm design architecture.

- 41. Later that same day, in response to and in reliance on Carney's email, TSMC employee Andrew Wu—who had received Carney's email demanding the 32/28 nm Design Rules from Kuo Wu—sent Carney a proposed amendment to the parties' Non-Disclosure Agreement that covered TSMC's 32 nm and smaller processes. The proposed NDA amendment was communicated by Andrew Wu to Carney via email. This reliance by TSMC was reasonable given Carney's false representation to TSMC (which, on information and belief, was approved, authorized, and directed by Defendants) that Tela sought TSMC's 32/28 nm Design Rules for mutually beneficial purposes relating to the collaboration between Tela and TSMC. On information and belief, Defendants knew that this representation was false when it was made.
- 42. TSMC would not have provided a proposed amendment to the parties' Non-Disclosure Agreement for TSMC's 32 nm and smaller technology if it had known, and/or had been informed by Defendants, of Defendants' true intentions to use TSMC's confidential and proprietary technical information for purposes of prosecuting Tela's patent applications.
- 43. Four days later, on March 13, 2009, Carney—who, on information and belief, was continuing to act as an agent of Tela and/or under the direction and with the authorization of Becker and other Officers and Directors of Tela—emailed both Andrew Wu and Kuo Wu with an executed copy of the NDA Amendment, wherein Tela agreed to keep confidential and protect from unauthorized disclosure or use TSMC's 32 nm and smaller technology, and by incorporation of the earlier NDA, "only to use [such] Confidential Information for the purpose of mutually beneficial technical and business developments." Tela's duty of confidentiality for the 32/28 nm TSMC information disclosed pursuant to the amendment was to be perpetual.
- 44. In that same email, Carney again pressed for access to TSMC's 32/28 nm Design Rules, demanding that TSMC "[m]ake the 32nm rules available to Dhrumil [Gandhi] today[.]"

Carney's email again failed to disclose Defendants' true intent to use TSMC's 32/28 nm Design Rules for Tela's patent prosecution purposes, or Defendants' existing efforts to incorporate TSMC's confidential Design Rule information into its continuation patent applications.

- 45. Later that same day, in response to and in reliance on Carney's email and the executed NDA Amendment attached thereto, Andrew Wu informed both Carney and Gandhi via email that TSMC would "release [the 32/28 nm Design Rules] to Dhrumil [Gandhi] via FTP today." TSMC then, in fact, provided its 28 nm process Design Rules to Gandhi via FTP on March 13, 2009. On information and belief, Defendants received TSMC's Design Rules on or around that date after Gandhi downloaded them from TSMC's FTP servers. This reliance by TSMC was reasonable given Tela's failure to disclose its misuse and intended misuse of confidential TSMC information for Tela's patent prosecution purposes, and Carney's false representation to TSMC (which, on information and belief, was approved, authorized, and directed by Defendants), made through both his emails and his request to amend and extend the parties' NDA to 32 nm and smaller processes, that Tela intended to use the 32/28 nm Design Rules only for the mutually beneficial purposes of "[t]echnical evaluation and decision on 28nm layout options by the end of April," and for no other purposes. On information and belief, Defendants knew that this representation was false when it was made.
- 46. TSMC would not have provided its 32/28 nm process Design Rules to Defendants if it had known, and/or had been informed by Defendants, of Defendants' true intentions to use TSMC's confidential technical information for patent prosecution purposes.
- 47. Defendants learned from their review of TSMC's Design Rules that customers designing products according to TSMC's 32/28 nm Design Rules would need to utilize a design approach that differed from, and that would not utilize, several essential elements of Tela's "gridded array" design approach and purported "invention."

1	• Defendants filed Patent Application No. 12/572,243 (which issued as U.S. Patent No.	
2	8,258,552) on October 1, 2009.	
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8	• Defendants filed Patent Application No. 12/753,766 (which issued as U.S. Patent No.	
9	8,264,049) on April 2, 2010.	
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15	50. Defendants' misuse of TSMC's confidential information is reflected in the issued	
16	patent claims of at least U.S. Patents Nos. 8,258,547; 8,258,550; 8,258,552; and 8,264,049 (the	
17	"Area Trim Patents").	
18	51. In furtherance of its fraud, Defendants also misappropriated certain TSMC trade	
19	secret information disclosed to Tela in TSMC's 28 nm Design Rules, related documentation, and	
20	communications between Tela and TSMC regarding TSMC's 28 nm design architecture.	
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24	This trade-secret information was only provided to Tela pursuant to the	
25	Nondisclosure Agreement (and amendments thereto) described herein, and would not above been	
26	provided or made available to Tela absent the agreement.	
27	52. Defendants, including on information and belief Becker personally, in furtherance	
28	of their fraudulent scheme, used the foregoing information to draft claims, and/or to disclose the	

1	foregoing information to Tela's patent agents, including Albert Penilla, to use to draft claims, so
2	of Tela's Patent Application No.
3	12/717,887 (which issued as U.S. Patent No. 8,490,043)
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13	. This unauthorized use by
14	Defendants of TSMC's trade-secret information, obtained by Defendants under Tela's Non-
15	Disclosure Agreement(s) with TSMC, was for Tela's (and its shareholders') benefit alone, and
16	was motivated in large part by Defendants' belief that by using it, they could obtain claims to
17	inventions that would read onto products designed in accordance with TSMC's Design Rules.
18	This use by Defendants of TSMC's trade-secret information was not for the mutual benefit of
19	Tela and TSMC, as evidenced at least by Tela's assertion of the patents it obtained against TSMC
20	to obtain license payments and other consideration and engage in activities detrimental to the
21	interests of TSMC.
22	54. Defendants, including on information and belief Becker personally, in furtherance
23	of their fraudulent scheme, also used the foregoing information to draft claims, and/or to disclose
24	the foregoing information to Tela's patent agents, including Albert Penilla, to use to draft claims,
25	of Tela's Patent Application No. 13/620,681
26	(which issued as U.S. Patent No. 8,635,583).
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- 59. On information and belief, Tela also has disclosed and used TSMC's confidential and trade secret information without TSMC's consent for other purposes, including the prosecution of additional Tela patents related to or in the same patent family as the Area Trim Patents and Power Trim Patents, that were not for the mutual benefit of TSMC and Tela.
- 60. Tela's use of TSMC's confidential and trade secret information for purposes that were not for the mutual benefit of TSMC and Tela materially breached the terms of the Nondisclosure Agreements (including amendments thereto) between Tela and TSMC.
- 61. Tela's misappropriation of TSMC's trade secrets, as described in detail herein, was willful and malicious. On information and belief, at least Becker—who is an officer, director, and managing agent of Tela—had knowledge of, authorized, directed, and actively participated in the fraudulent, willful, and malicious conduct described herein.

## F. Tela also breached the Powertrim Cooperation and License Agreement.

- 62. On February 19, 2009, Tela acquired substantially all of the assets of Blaze, DFM, Inc. ("Blaze"), which had previously entered into an agreement with TSMC to develop and promote certain power reduction/optimization tools for IC design. Through this acquisition, Tela became the successor of and to all rights and duties of Blaze with respect to all agreements between Blaze and TSMC.
- 63. On May 18, 2010, Tela and TSMC entered into a Powertrim Cooperation and License Agreement which terminated the Joint Marketing Agreement effective as of that day. The Powertrim Cooperation and License Agreement provided that, during the term of the Agreement, and with the exception of two other Tela customers, TSMC would have an exclusive right and license even as to Tela to practice certain of Tela's Patents as needed to support the creation of integrated circuit designs that utilize gate length increases or decreases ("gate length biasing") for the manufacture of wafers, including to create and offer for use or sale cell libraries used to design gate-length-biased IC layouts. The Agreement commenced on May 18, 2010 and terminated on May 17, 2013.

64. On information and belief, in breach of the Agreement, Tela practiced the Tela Patents during the term of the Agreement to create its own cell libraries that it has offered, and continues to offer, for sale or license.

## **FIRST CAUSE OF ACTION**

# (Fraud – Deceit Against All Defendants)

- 65. TSMC incorporates the allegations of paragraphs 1 through 64 as if fully set forth herein.
- 66. On or about March 9, 2009, Defendants induced TSMC to disclose its proprietary 28 nm Design Rules to Tela by falsely representing that they would keep TSMC's Design Rule information confidential and would use it only for the mutual benefit of TSMC and Tela, when in fact, Defendants intended to disclose TSMC's confidential information to Tela's patent agents, including Albert Penilla, and use it to continue amending Tela's patent claims. As described in detail herein, this misrepresentation and omission was made by means of email by Tela managing agent Neal Carney (at the direction of at least Becker, Tela's President, CEO, and Board Member) to Tela employee Kuo Wu on March 9, 2009, wherein Carney omitted to tell Wu of Tela's prior misuse and intention to misuse TSMC's confidential information for Tela's patent prosecution purposes, but instead requested to amend and extend the parties' NDA to 32 nm and smaller processes, misrepresented that Tela intended to use TSMC's 32/28 nm Design Rules only for the mutually beneficial purpose of a "[t]echnical evaluation and decision on 28nm layout options by the end of April," and insisted that "[w]e need 32/28nm rules asap ... [p]lease send whatever [NDA] addendums we need to sign for access to these ... [w]e need the rules now." Carney repeated this misrepresentation and omission on March 13, 2009, in an email to Andrew Wu and Kuo Wu, to which a signed NDA Amendment was attached. Under the NDA, the parties understood that TSMC confidential information could only be used for the mutual benefit of TSMC and Tela. Defendants knew that the foregoing representation was false, and intended for TSMC to rely on it.
- 67. Defendants intentionally failed to disclose to TSMC the material facts that Tela had already misused confidential TSMC information for the purpose of Tela's patent prosecution

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and intended to yet again to use TSMC's confidential 28 nm information to draft Tela's patent claims, or to disclose it to Tela's patent agents to draft Tela's patent claims, without TSMC's authorization. TSMC did not know of these facts, and Defendants intended to deceive TSMC by failing to disclose them.

- 68. TSMC reasonably relied on Defendants' false representations and material omissions by providing Tela its 28 nm Design Rules and other technical information relating to its 28 nm processes on March 13, 2009. This reliance was reasonable at least because of the history of collaboration between the parties relating to TSMC geometries larger than 32 nm, the existing NDA covering such geometries, and the lack of any reason for TSMC to believe—at that time—that Defendants had misused or would misuse TSMC's confidential information and trade secret information for Tela's patent prosecution purposes.
- 69. Defendants used TSMC's confidential and trade secret information relating to its 28 nm technology after March 13, 2009, to amend Tela's continuation patent applications to claim subject matter that Tela did not invent, but that was designed to cover products and layouts designed in accordance with TSMC's 28 nm Design Rules. These amendments to the patent applications—examples of which have already been described in detail herein—added new matter to the claims in each of the patent applications and issued patents that was *not* invented by the named inventors on those patents, but instead was derived from confidential and trade-secret information Defendants received from TSMC. TSMC did not discover Defendants' fraud until sometime in 2013.
- 70. TSMC has been damaged by Defendants' fraud in an amount to be determined, but in excess of this Court's jurisdictional amount. These damages include at least the harm caused by Tela's threatened and actual assertion of its patents, including Tela's assertion of patent claims containing the new matter described herein that originated from TSMC's confidential information against TSMC and its customers in litigation.
- 71. TSMC is entitled to damages for the actual loss caused to TSMC by Defendants' fraud and/or for any unjust enrichment that Defendants have enjoyed by their fraudulent conduct

that has not been taken into account in computing damages for TSMC's actual loss. TSMC is also entitled to punitive damages for Defendants' fraudulent conduct described herein.

72. TSMC has no adequate remedy at law for the present and threatened future injuries being caused by Defendants' fraudulent representation and omission. TSMC is entitled to injunctive relief to prevent Defendants from making further use or disclosure of the confidential information it wrongfully obtained and the patents it secured as a result of its fraud.

### **SECOND CAUSE OF ACTION**

# (Breach of Contract - Nondisclosure Agreements Against Tela)

- 73. TSMC incorporates the allegations of paragraphs 1 through 72 as if fully set forth herein.
- 74. As stated above, Tela and TSMC entered into a Nondisclosure Agreement on May 16, 2006 and an Amended Nondisclosure Agreement on March, 9, 2009 under which they agreed to explore whether Tela's gridded array layout concept could work in conjunction with TSMC's manufacturing processes. As part of that agreement, Tela agreed only to use TSMC's trade-secret and confidential information for the mutual benefit of TSMC and Tela. Tela's receipt of TSMC's trade-secret and confidential information relating to the Powertrim Cooperation and License Agreement was also subject to an NDA between Tela and TSMC, wherein Tela agreed only to use TSMC's confidential information for the mutual benefit of TSMC and Tela.
- 75. TSMC performed its obligations under the foregoing NDAs by providing confidential TSMC information to Tela and working with Tela to explore its gridded array design approach and power reduction\optimization approach for products to be designed in accordance with TSMC's 65, 45 and 28 nm Design Rules and process technology.
- 76. Tela, by and through the conduct of its Officers, Directors, and agents, including Defendant Becker, breached the NDAs by using confidential information it obtained from TSMC for purposes other than for the mutual benefit of TSMC and Tela, including for Tela's patent prosecution activities relating to the Area Trim Patents and the Power Trim Patents.
- 77. Tela's breach has damaged TSMC in an amount to be determined, but in excess of this Court's jurisdictional amount. TSMC is entitled to damages for the actual loss caused to

TSMC by Tela's breach of the NDAs, and/or for any unjust enrichment Tela has enjoyed by its breach that has not been taken into account in computing damages for TSMC's actual loss.

78. TSMC has no adequate remedy at law for the present and threatened future injuries being caused by Tela as a result of its breach of the NDAs. Tela's breach of the NDAs and wrongful acquisition of TSMC's intellectual property, as described herein, has allowed Tela unlawfully to build a reputation that it does not deserve, to enjoy intellectual property rights it has not earned, to interfere with TSMC's relationships with its customers, and to cause TSMC to incur other expenses. TSMC's injuries cannot adequately be compensated by money, and Tela lacks the resources to compensate TSMC for such continuing injuries as could be compensated monetarily. Moreover, Tela agreed that, in the event of a breach by Tela, TSMC would be "entitled to seek proper injunctive or equitable relief in any court of competent jurisdiction in addition to any other remedies by operation of laws or in equity." TSMC, therefore, is entitled to injunctive relief to prevent Tela and its Officers, Directors, and agents (including Becker) from (1) making further use and/or disclosure of TSMC's confidential information and (2) making further use of intellectual property derived therefrom.

# **THIRD CAUSE OF ACTION**

(Trade Secret Misappropriation - Cal. Civil Code §§ 3426 et seq. Against Defendants)

- 79. TSMC incorporates the allegations of paragraphs 1 through 78 as if fully set forth herein.
- 80. Defendants disclosed TSMC trade-secret information to their attorneys and/or incorporated TSMC trade-secret information into their patent applications, and have misused TSMC trade-secret information relating to TSMC's 28 nm processes—information that Tela promised in writing it would keep confidential in perpetuity.
- 81. TSMC's trade secrets derive independent economic value, actual or potential, from not being generally known to the public, or to other entities and persons such as Defendants, who can obtain value from their disclosure or use. TSMC's knowledge and use of these trade secrets provides TSMC with competitive advantages over those who do not know them. TSMC's trade

secrets are not matters either of general knowledge in the field of semiconductor processing and manufacture, nor of special knowledge to persons who are skilled in the field.

- 82. TSMC has made, and continues to make, efforts that are reasonable under the circumstances to protect the secrecy of its trade secrets by, among other things, requiring all recipients of TSMC's trade secret information, including Defendants Tela and Becker, to execute written nondisclosure agreements, by designating certain documents containing trade secret information as "confidential" or "restricted," and by restricting access to trade secret information to employees who need to know them, and to customers, or joint venture participants, or licensees only upon their agreement to keep such information confidential.
- 83. Defendants' misappropriation has damaged TSMC in an amount to be determined, but in excess of this Court's jurisdictional amount. TSMC is entitled to damages for the actual loss caused to TSMC by Defendants' misappropriation of TSMC's trade secrets, and/or for any unjust enrichment Defendants have enjoyed by such misappropriation that has not been taken into account in computing damages for TSMC's actual loss.
- 84. TSMC has no adequate remedy at law for the present and threatened future injuries being caused by Defendants. Defendants' continuing misappropriation of TSMC's trade secrets as described herein allows Defendants unlawfully to build a reputation that they do not deserve, to enjoy property rights they have not earned, and to threaten TSMC's businesses, including TSMC's relationships with its customers. Such injuries cannot adequately be compensated by money, and Defendants lack the resources to compensate TSMC for such continuing injuries as could be compensated by money. Moreover, Tela agreed that, in the event of a breach by Tela, TSMC would be "entitled to seek proper injunctive or equitable relief in any court of competent jurisdiction in addition to any other remedies by operation of laws or in equity." TSMC, therefore, is entitled to injunctive relief to prevent Tela, including its Officers, Directors, and agents, and including Defendant Becker, from making further use and/or disclosure of TSMC's trade secrets and information derived therefrom.
- 85. Defendants' misappropriation of TSMC's trade secrets was willful and malicious. As alleged herein, Tela's officers, directors, and managing agents—including at least Defendants

Becker, and potentially Carney and Gandhi as well—had knowledge of, authorized, directed, and actively participated in the fraudulent, willful, and malicious conduct described herein. California Civil Code Sections 3426.3(c) and 3426.4 thus entitles TSMC to an award of exemplary damages equal to twice the actual damages caused by Defendants' misappropriation, as well as TSMC's reasonable attorney's fees.

#### FOURTH CAUSE OF ACTION

## (Breach of Contract – Powertrim Cooperation and Licensing Agreement Against Tela)

- 86. TSMC incorporates the allegations of paragraphs 1 through 85 as if fully set forth herein.
- 87. TSMC and Tela entered into a Powertrim Cooperation and Licensing Agreement on May 18, 2010, giving TSMC the exclusive right and license, even as to Tela, to practice certain of Tela's Patents as needed to support the creation of integrated circuit designs that utilize gate length biasing for the manufacture of wafers, including cell libraries used to facilitate and create gate-length-biased designs.
- 88. On information and belief, when TSMC had the exclusive right and license to practice the Tela patents during the term of the Agreement, Tela practiced the Tela Patents to create cell libraries.
- 89. On information and belief, Tela has offered, and continues to offer, for sale or license the cell libraries that it developed during the period of TSMC's exclusivity, in breach of the Parties' Agreement.
- 90. Tela's breach of the Powertrim Cooperation and Licensing Agreement has damaged TSMC in an amount to be determined, but in excess of this Court's jurisdictional amount.
- 91. TSMC is entitled to damages for the actual loss caused to TSMC by Tela's breach of the Powertrim Cooperation and Licensing Agreement, and/or for any unjust enrichment Tela has enjoyed by its breach that has not been taken into account in computing damages for TSMC's actual loss.

92. TSMC has no adequate remedy at law for the present and threatened future injuries being caused by Tela's breach of the Powertrim Cooperation and Licensing Agreement. Tela's breach of the agreement has enabled Tela and others to unfairly compete with TSMC. Such an injury cannot adequately be compensated by money, and Tela lacks the resources to compensate TSMC for such continuing injuries as could be compensated by money. Moreover, Tela agreed that, in the event of a breach by Tela, TSMC would be "entitled to seek proper injunctive or equitable relief in any court of competent jurisdiction in addition to any other remedies by operation of laws or in equity." TSMC, therefore, is entitled to injunctive relief to prevent Tela from making further use of the cell libraries that Tela developed during the term of the Powertrim Cooperation and Licensing Agreement.

#### PRAYER FOR RELIEF

TSMC prays for the following relief:

- 93. A judgment that Tela and Becker are liable on all causes of action alleged against them herein;
- 94. Damages, including disgorgement of Defendants' unjust enrichment, for Tela's breaches of contract, and Tela and Becker's fraud, and trade secret misappropriation, in an amount according to proof;
  - 95. Exemplary and punitive damages;
  - 96. Attorneys' fees, costs, and expenses incurred by TSMC;
- 97. Pre-judgment and post-judgment interest;
- 98. Imposition of a constructive trust on any patents applied for by Defendants or issued to Defendants that make use of, or result from the use of, confidential information obtained from TSMC.
- 99. Preliminary and permanent injunctive relief enjoining Defendants, Tela employees, or Tela representatives, and all persons acting in concert or participating with them, as follows:
  - A. From disclosing any confidential information or trade secret information obtained from TSMC to any third party;

1	В.	From using and/or gaining imprope	er benefit from Defendants' prior use of any	
2		confidential information or trade se	cret information obtained from TSMC for any	
3		purpose, including to draft, amend,	or enforce patent claims that Defendants	
4		obtained by disclosing or misusing	TSMC's confidential or trade secret	
5		information;		
6	C.	From offering to sell (or license) or	selling (or licensing) to anyone, anywhere, any	
7		Tela products developed using TSM	MC's confidential information, or information	
8		derived therefrom; and		
9	D.	Immediately to preserve and return	to TSMC (i) all copies of all TSMC documents	
10		and information, including without	limitation any trade secret and other	
11		confidential or proprietary informat	ion acquired from TSMC; and (ii) all copies of	
12		all materials (in paper, electronic, o	r any other form) containing any, or derived	
13	from any, TSMC trade secrets or other confidential or proprietary information;			
14	100.	All other relief that the Court deem	s just and proper.	
15	JURY TRIAL DEMANDED			
16	Plainti	iff demands a trial by jury of all issue	es so triable.	
17				
18	Dated: Augus	t 18, 2014	RESPECTFULLY SUBMITTED,	
19			KEKER & VAN NEST LLP	
20				
21		By	: /s/ Jeffrey R. Chanin JEFFREY R. CHANIN	
22			Attorneys for Plaintiff Taiwan	
23			Semiconductor Manufacturing Company, Ltd.	
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